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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/638,849	08/11/2003	James Xixian Wu	SP-1076.2 US	4449

20875 7590 08/14/2006

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EXAMINER	
CANTELMO, GREGG	
ART UNIT	**PAPER NUMBER**
1745	

DATE MAILED: 08/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/638,849	WU, JAMES XIXIAN	
	Examiner	Art Unit	
	Gregg Cantelmo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the amendment received June 15, 2006:

   a. Claims 1-19 have been cancelled. New claims 20-28 are pending;

   b. The previous 112 rejections are withdrawn in light of the amendment;

   c. The prior art rejection of record stands.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 20-23 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,263,380 (Riedl), of record.

Riedl discloses an electrochemical cell comprising: a can 1 having an open end and a side wall; a cover 4, positioned over the open end of the can 1, consisting of a base and a peripheral wall extending axially away from the base wherein the peripheral wall has a terminal edge positioned radially outside of the outer edge of the can 1 side wall; a first adhesive 51 disposed between the side wall and the peripheral wall so that the cover and the can are adhesively secured to form a non-crimped cell container and wherein the can and the cover define an internal chamber; a positive electrode, negative electrode and alkaline electrolyte solution disposed within the container (as applied to claims 20). With respect to the non-crimped arrangement, Riedl discloses

that the cell can be either crimped *or bent*. The arrangement shown in Fig. 3 shows a cover which is bent, and thus to the alternative arrangement disclosed by Riedl. The claimed invention, while reciting a non-crimped cell container, does not preclude a bent container arrangement as shown by Riedl. Thus the bent arrangement of the cover as shown in the figures is held to anticipate the claimed invention.

A seal 52 is disposed between the sidewall of the container and the peripheral wall of the cover (Fig. 3 as applied to claim 21).

The seal is positioned proximate to the cover 4 (Fig. 3 as applied to claim 27).

Riedl discloses an electrochemical cell comprising: a can 1 having an open end and a side wall; a cover 4, positioned over the open end of the can 1, consisting of a base and a peripheral wall extending axially away from the base wherein the peripheral wall has a terminal edge positioned radially outside of the outer edge of the can 1 side wall; a first adhesive 51 disposed between the side wall and the peripheral wall so that the cover and the can are adhesively secured to form a non-crimped cell container and wherein the can and the cover define an internal chamber; a positive electrode, negative electrode and alkaline electrolyte solution disposed within the container. With respect to the non-crimped arrangement, Riedl discloses that the cell can be either crimped *or bent*. The arrangement shown in Fig. 3 shows a cover which is bent, and thus to the alternative arrangement disclosed by Riedl. The claimed invention, while reciting a non-crimped cell container, does not preclude a bent container arrangement as shown by Riedl. Thus the bent arrangement of the cover as shown in the figures is held to anticipate the claimed invention. A first adhesive material 51 is disposed

between the sidewall of the container and the peripheral wall of the cover for adhering the cover to the container. A second adhesive material 52 is disposed between the side wall of the container and the peripheral wall of the cover (Fig. 3, col. 4, ll. 32-59 and col. 5, ll. 34-44 as applied to claim 22).

First adhesive 51 is closer to the open end of the container 1 and the second adhesive 52 is located further away from the open end of the container (Fig. 3 as applied to claim 23).

The can or container is a metal container (col. 1, ll. 10-15 as applied to claims 26 and 28).

Response to Arguments

3. Applicant's arguments filed June 15, 2006 have been fully considered but they are not persuasive.

As stated in the previous office action:

With respect to the arguments to the cover of Riedl:

Applicant argues that the cover of Riedl is component 2 and not cap 4. However it should be evident that the claims fail to impart sufficient structural differentiation between the claimed cover and element 4 relied upon by the Examiner as the cover. It should further be evident that component 4 of Riedl in fact functions as a covering element and therefore can reasonably be applied as the cover component described in the claims.

With respect to the crimped/non-crimped arguments:

The Examiner disagrees with Applicant's interpretation of the prior art of Riedl as to the issue of a crimped or non-crimped structure.

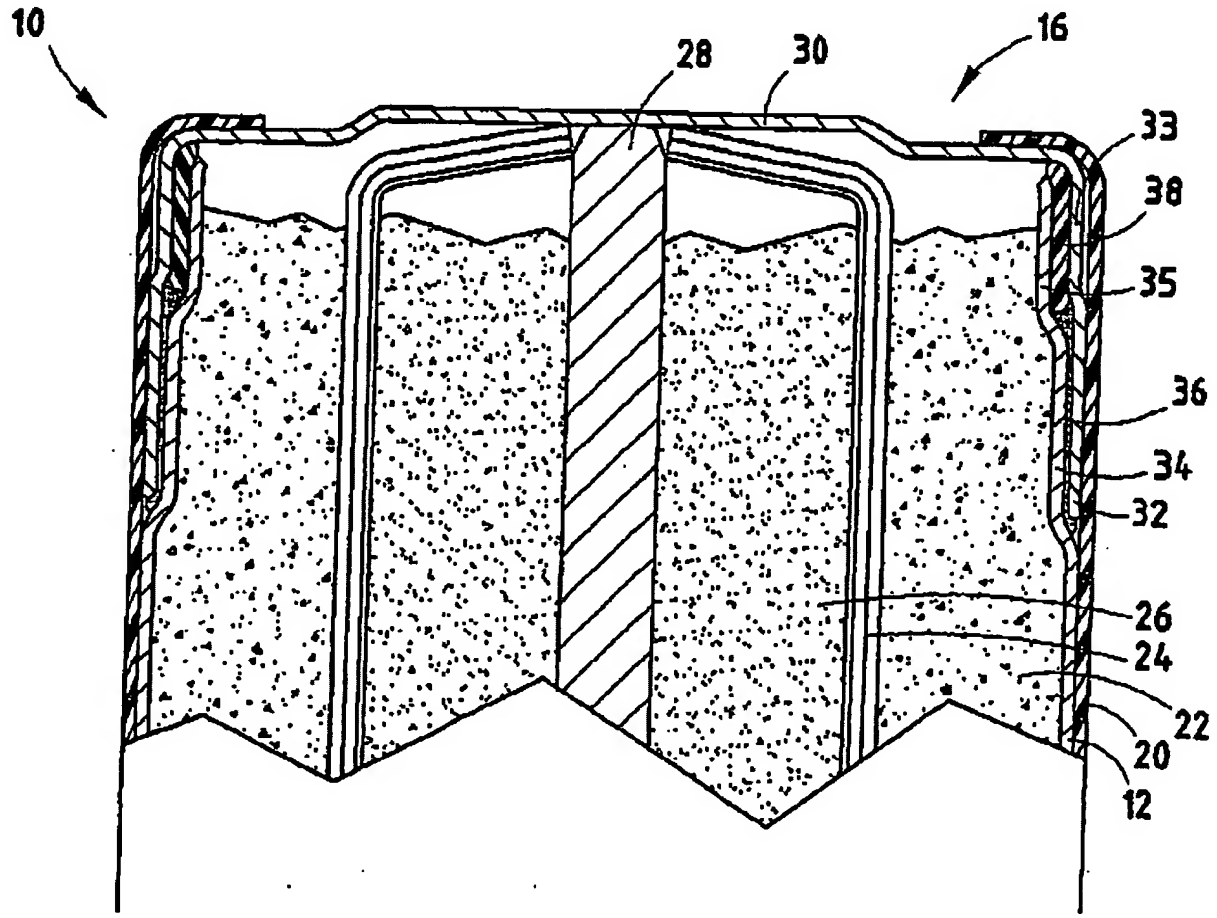
The Examiner does agree that Riedl discloses only a crimped structure as recited in column 5 of Riedl as described with respect to Fig. 5 of Riedl. First, Applicant fails to recognize that Riedl discloses that the arrangement can be bent or crimped. And thus the features shown in the figures, which appear to be identical in shape and design relative to the cover and sidewall is exemplary of, if anything, a bent relationship, as opposed to a crimped relationship. Second, the claimed invention does not preclude a bending of the claimed elements as opposed to crimping. This is additionally evident from Fig. 1 of the instant application which clearly shows a bending of the cover in relation to the sidewall and thus exemplary of a bent arrangement and not crimping. Third, the bending or crimping disclosed in Riedl are relative to the arrangement in Fig. 5 and is not described or applied to the alternative embodiments shown in Figs. 2 and 3. Also as stated in the previous office action:

Applicant's own disclosure of to Fig. 1 shows that the cover 30 which is cup-shaped having bent edges is placed in a sealing arrangement with the container. The disclosure of Riedl is identical to this arrangement as claimed (discussed above). A complete review of the original disclosure of the instant application reveals that Applicant's own disclosure recognizes this arrangement to be exemplary of a non-crimped design (see Fig. 1 and paragraph bridging pages 6 and 7 of the instant Applications own disclosure).

The Examiner has appreciated the references cited in attempt to support Applicant's arguments but considering these arguments are not commensurate with the original disclosure's teachings of what constitutes a non-crimped design between the cover and container.

Provided herein is a side-by-side comparison between Fig. 1 of the instant application, an admitted embodiment of a non-crimped arrangement between the cover and container of a battery and Fig. 3 of Riedl.

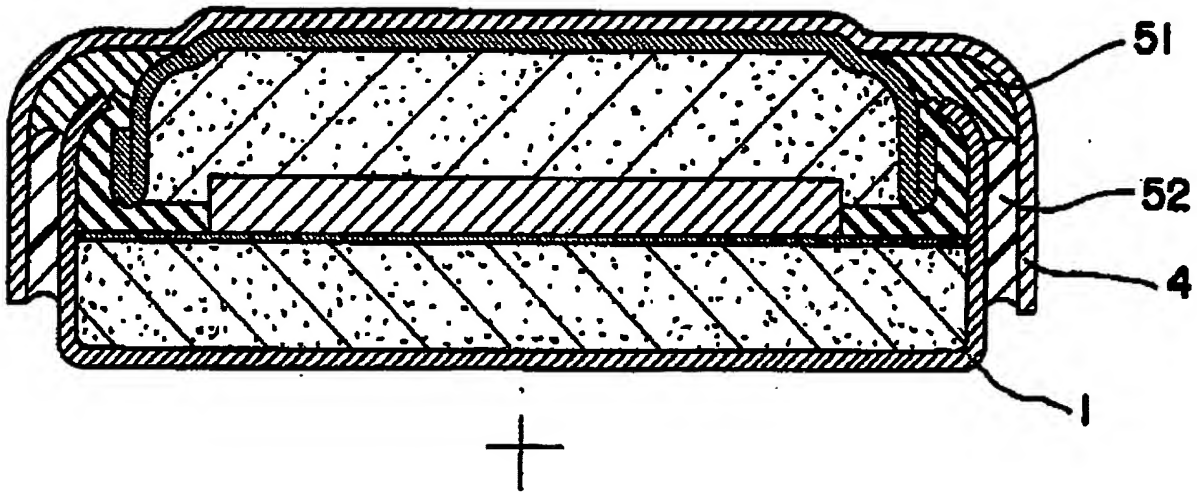
FIG. 1 OF THE INSTANT APPLICATION



In Fig. 1 of the instant application, reference character 30 corresponds to the cover and 12 to the container. As described in the paragraph bridging pages 6 and 7 of the instant application, this arrangement is a non-crimped arrangement between the cover 30 and container 12.

FIG. 3 of RIEDL

FIG. 3



In Fig. 3 of Riedl, reference character 4 corresponds to the cover and 1 to the container. This arrangement, structurally identical to the cover and container arrangement with respect to the claimed invention is also understood to be non-crimped arrangement between the cover 4 and container 1.

Applicant fails to show any evidence as to how the claimed invention differs from the bent embodiment of Riedl.

It should be apparent for the reasons set forth above, and from the analysis of the corresponding figures below, that the prior art in fact anticipates the non-crimped structure. Therefore the rejection stands.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riedl in view of either U.S. patent Nos. 4,690,879 (Handoff) or 4,401,733 (Shirai).

The teachings of Riedl have been discussed above and are incorporated herein.

The difference not yet discussed is the epoxy comprising Bisphenol A.

The insulating securing means could be an electrically nonconductive adhesive that secures the inner area of the conductive member to the bottom of the container.

Suitable nonconductive adhesives for this invention are methyl methacrylate, ethyl cyanoacrylate, bisphenol A/epichlorohydrin resin and polyamide blends, and the like (Huhndorff, col. 3, ll. 3-9).

The bisphenol epoxy adduct polyamide amine is superior as a sealing agent. The above superiority is considered to be attributable to the fact that, as may be analogized from the structure of the molecular chain, the construction having aromatic hydrocarbon (bisphenol group) has less molecular vibration up to high temperature as compared with a hydrocarbon single construction (Shirai, col. 3, ll. 20-27).

The motivation for selecting the epoxy to comprise Bisphenol A is that it provides a sealing material having superior sealing properties.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Riedl by selecting epoxy to comprise Bisphenol A since it would have provided a material for sealing have superior sealing properties.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riedl in view of U.S. Patent No. 4,725,515 (Jurca).

Riedl discloses a non-crimped alkaline electrochemical cell having an adhesive closure comprising: a container 1 having an open end and a side wall, a positive electrode 7, a negative electrode 6, an alkaline electrolyte solution, a cover 4 disposed on the open end of the container and having a peripheral wall extending radially outside of the side wall of container 1 (Fig. 2). A first sealing material 3 is disposed between the electrolyte in the container and adhesive 51 for sealing purposes. A second seal 51 is

disposed between the sidewall of the container and the peripheral wall of the cover for adhesive purposes (Figs. 3-5 as applied to claim 11). The first seal 3 is recognized to be a thermoplastic seal (col. 4, ll. 45-47). The second seal 51 is an adhesive.

The difference between claim 25 and Riedl is that Riedl does not teach of disposing the seal 3 between the cover and the container.

Riedl teaches numerous configurations for seal 3 and adhesive 51 (see Figs. 2-5).

The exact placement of the seal in Riedl compared to that of claim 25 is not held to be a critical difference. The prior art of Riedl teaches of the need to place both a seal and adhesive in an alkaline cell much the same way as the instant application does, notably that the seal is disposed closer to the electrochemical cell components than the adhesive. This provides both the sealing and adhesion properties required by Riedl. Furthermore the Riedl varies the shape and placement of both the seal 3 and adhesive 51 and, for example in Fig. 5 shows a configuration where the seal is provided adjacent to the cell wall and adhesive. Further extending the seal such that it is disposed over the cell container and on the sidewall of the cell container between the cover and cell would have improved the sealing of the cell. See the various figures of Jurca which show a seal which overlaps the edge of the container.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Riedl by extending the seal 3 onto the sidewall between the sidewall and cover since it would have improved the sealing of the cell.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregg Cantelmo
Primary Examiner
Art Unit 1745

August 8, 2006
gc